

VGAME: Investment Case for Video Gaming

The video gaming industry has come a long way since its first commercial video game success, Pong, in the 1970s

Today, video games are a lot more sophisticated, and video gaming presents a compelling investment opportunity due to the industry's robust growth prospects and evolving market dynamics. The global gaming market was valued at \$260 billion in 2024, and is expected to grow to \$558 billion by 2032, growing at a compound annual growth rate of 13.4%.¹

Several factors contributing to the strong investment potential of video gaming include:

- **Expanding global consumer base:** By 2027, 3.8 billion people are expected to be playing video games, indicating a vast and expanding global market.²
- **Technological innovation:** Advancements in virtual and augmented reality, cloud gaming, Web 3.0, blockchain, and artificial intelligence are creating new revenue streams and enhanced user gaming experiences.³

¹ Skyquest Gaming Market Insights, [https://www.skyquestt.com/report/gaming-market#:~:text=Gaming%20Market%20size%20was%20valued,period%20\(2025%2D2032\)](https://www.skyquestt.com/report/gaming-market#:~:text=Gaming%20Market%20size%20was%20valued,period%20(2025%2D2032))

² <https://www.marketbeat.com/learn/video-game-stocks-how-to-invest-in-gaming/>

³ <https://www.kavout.com/market-lens/top-gaming-stocks-and-etfs-to-watch-in-2025-riding-the-wave-of-technological-innovation>

- **Boom of mobile gaming:** The accessibility and portability of smartphone gaming has significantly expanded the market, with companies like Glu Mobile – now owned by Electronic Arts – capitalizing on this trend.⁴
- **Market consolidation:** Major players are consolidating their market positions through strategic acquisitions, such as Take-Two Interactive's \$12.7 billion acquisition of Zynga⁵ and Microsoft's \$69 billion acquisition of Activision Blizzard.⁶
- **Diversified revenue models:** Companies are generating new income streams by launching products cross-platform and leveraging in-game purchases, subscriptions models, and advertising to generate additional income streams.
- **Upcoming blockbuster releases:** Highly anticipated games like Grand Theft Auto 6 and the Nintendo Switch 2 new-console release are expected to drive growth in the coming year.
- **AI potential:** The integration of AI technologies and gaming should cause a surge in growth over the next few years as AI enhancements drive innovation while helping reduce costs.

A brief history of video gaming

The history of the video gaming industry spans back to the 1950s, as computer scientists developed simple games and simulations on early computers. Early games like Bertie the Brain (1950) and Nimrod

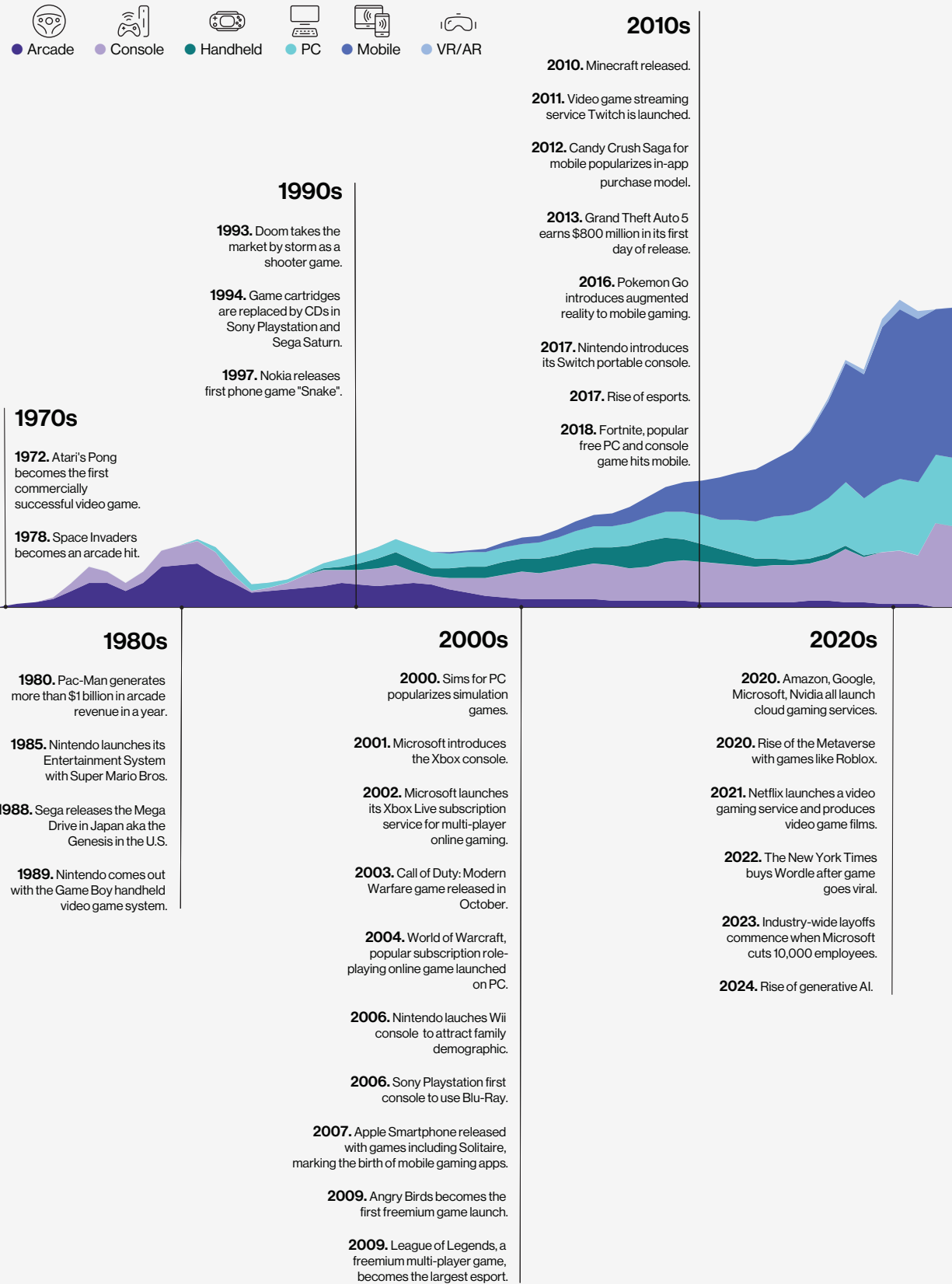


⁴ <https://scrab.com/blog/maximize-gains-the-5-must-have-video-game-stocks-for-your-portfolio-in-2024>

⁵ <https://blog.roboforex.com/blog/2023/11/24/gaming-industry-analysis-will-gaming-stocks-rise-in-2024/>

⁶ <https://variety.com/2023/digital/news/microsoft-activision-blizzard-acquisition-uk-regulatory-approval-1235754785/>

50 Years of Video Gaming Industry Revenues by Platform, 1972 to 2024 (US billions)



(1951) were created for technology demonstration purposes. The first game to be created purely for entertainment was Tennis for Two (1958). And in 1962, MIT students developed a game called Spacewar!.

But the 1970s marked the birth of the commercial video game industry, when Pong, developed by Atari, became the first successful video game in 1972. The release of Pong in 1975 to the home market was a significant milestone. This led to the rapid growth of the video game industry in the 1970s and '80s with popular arcade games such as Space Invaders, Asteroids, and Pac-Man.

In 1985, Nintendo released the Nintendo Entertainment System in the U.S. with Super Mario Bros., revitalizing the industry. In the late 1980s and early '90s, there was a console war between Nintendo and Sega, further driving innovation.

And in the late 1990s, Nintendo launched the first major handheld console, called the Nintendo Game Boy.

Today, video gaming has become a diverse and technologically advanced industry offering gaming experiences across many different platforms including gaming consoles like the Microsoft Xbox, Sony Playstation, and the Nintendo Switch, PC gaming, and mobile devices. The rise of the internet and mobile devices has driven the industry to amass billions of dollars in revenue.

Video game usage may have spiked during the pandemic period, but the video game industry continues to grow and evolve post-COVID with new content, technologies, and revenue streams.

Global video games market

According to Newzoo's 2024 Global Games Market Report,⁷ the number of global video game players reached 3.42 billion in 2024, representing a 4.5% increase on a year-over-year basis driven by growth in PC's, consoles, and mobile devices. While the average global playtime has declined from peak levels during the pandemic, players still play games, just for fewer hours. Interestingly, the revenue per playtime hour has actually increased thanks to new monetization strategies such as in-app ads and subscription models.



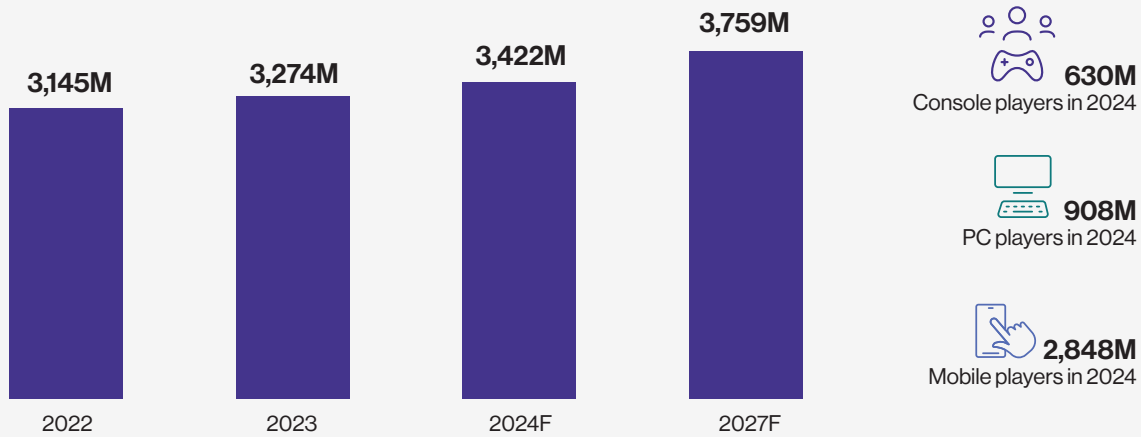
The video game industry is the highest-grossing area of the entertainment industry, generating more revenue than the music and movie industry combined.

Gamerhub⁸

⁷ Newzoo 2024 Global Games Market Report, August 2024.

⁸ Skyquest Gaming Market Insights, [https://www.skyquestt.com/report/gaming-market#:~:text=Gaming%20Market%20size%20was%20valued,period%20\(2025%2D2032\)](https://www.skyquestt.com/report/gaming-market#:~:text=Gaming%20Market%20size%20was%20valued,period%20(2025%2D2032))

Global player forecasts 2022-2027



Source: Newzoo

As depicted in the chart above, in 2024, there were 630 million console players (18%), 908 million PC players (27%), and 2,848 million mobile players (83%), with mobile players representing the largest segment of the market, boosted by the ongoing expansion of smartphone accessibility and mobile networks around the world, especially in emerging markets.

The Asia-Pacific region is home to 53% of the global gamers, with the mobile-first Middle East & Africa market and Latin America markets housing 16% and 11% of the global players, respectively. Europe and North America together account for 20% of global players.

Global gaming revenue by platform

Global gaming generated \$187.7 billion in 2024. Mobile gaming generated \$92.6 billion in revenue in

2024, or 49%, followed by console revenue of \$51.9 billion (28%) and PC revenue of \$43.2 billion (23%).

Console games

Shooting games were the top genre among console games, generating 16% of all console revenues, followed by 15% of revenues coming from Adventure games.

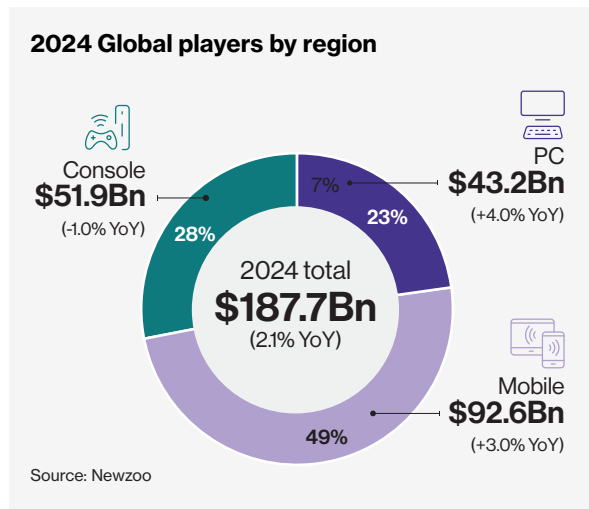
PC games

The top revenue-generating categories in PC games are shooting games, accounting for 17% of PC game revenue, followed by adventure games, which generate 13% of PC revenue. The growth trajectory of adventure games, however, is far superior, growing 21.2% on a year-over-year basis.⁹

Mobile games

Among the top-genre categories in mobile games were strategy games, followed by role-playing games, puzzle, casino, and simulation games. The

⁹ Newzoo 2024 Global Games Market Report, August 2024.



top highest-grossing mobile games worldwide in 2024 according to GameWorld Observer¹⁰ were Monopoly Go!, Honor of Kings, Royal Match, Roblox, and Candy Crush Saga. In-app purchases and advertising remain a key driver behind mobile game revenues.

Rising development costs require new monetization strategies

Video game development costs are rising due to a multitude of factors.

- **Advanced Technology:** Incorporating complex graphics, physical engines, and AI, which can inflate costs and development time.
- **Large Development Teams:** More developers are needed to handle the complexity of modern games, leading to increased personnel expenses and studio costs.

- **Motion Capture and Voice Acting:** High-quality cinematic sequences often require expensive motion capture and voice acting talent.
- **Marketing and Promotion:** Aggressive marketing campaigns are crucial to the success of major game launches.

On average, game development costs by type of game can be reduced to the following:¹¹

Type of games	Minimum budget for production
Indie	\$40,000
AAA	\$200,000
Mobile	\$4,000

AAA games are high-budget, high-profile video games with quality graphics, sound, and gameplay, and may cost as much as \$1 billion to make. Examples of game publishers that make AAA games include: Nintendo, Activision Blizzard, Electronic Arts, and Bandai Namco.

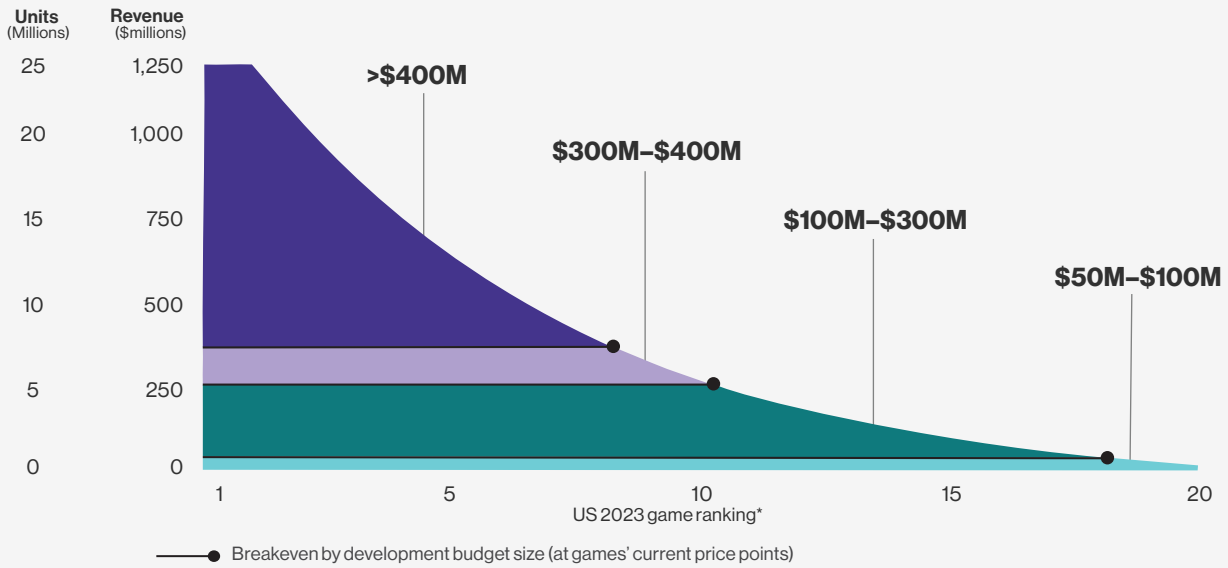
One side effect of high production costs is that it curbs risk-taking and innovation. The vast majority of AAA games published in 2024 were sequels of famous games such as Call of Duty: Black Ops 6, with an installed player base. To add to the challenge for new titles, to break even in the first year, a \$50 million console game must rank in the top 20, but typically two-thirds of the slots are taken by recurring titles.

¹⁰ [Gameworldobserver.com](https://gameworldobserver.com)

¹¹ [ilogos.biz/ https://ilogos.biz/why-does-video-game-development-cost-so-much-full-budget-breakdown-2](https://ilogos.biz/https://ilogos.biz/why-does-video-game-development-cost-so-much-full-budget-breakdown-2)

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First year sales



Games that are regularly in the U.S. top 20

	2019	2020	2021	2022	2023	
Call of Duty	●	●	●	●	●	Annual release
Madden NFL	●	●	●	●	●	
EA Sports FC**	●	●	●	●		
NBA 2K	●	●	●	●		
MLB: The Show		●	●	●	●	Franchise release
Mario Kart	●	●	●	●	●	
Super Smash Bros.	●	●	●	●		
Mortal Kombat	●	●	●		●	
Super Mario	●	●	●		●	
Minecraft	●		●	●	●	
Pokémon	●		●	●		
Spider-Man		●	●		●	
Resident Evil	●		●		●	
Assassins Creed		●	●			
Elden Ring				●		Notable exceptions***
Hogwarts Legacy					●	

Sources: Circana; Competition and Markets Authority; BCG analysis.

* The analysis looked at the top 20 AAA and AA games released in 2023. It assumes each unit sold at \$70, with a 30% platform fee, resulting in approximately \$50 net revenue per unit.

** This game replaced FIFA in 2024.

*** These are notable because they are new games that broke into the top 20.

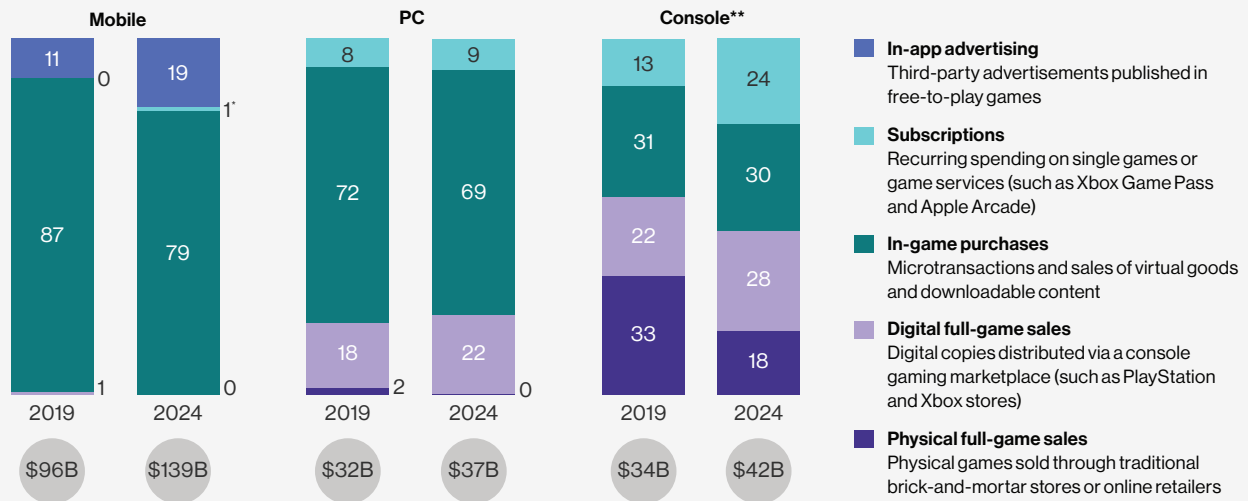
To offset rising costs, video gaming has adopted new, more diversified, monetization models. An increasing share of revenues from mobile games now comes from in-app advertising, and subscriptions and digital sales have grown the most in console gaming.¹²

Examples of video game monetization models include:

- **In-app advertising:** Third-party advertisements published in free-to-play games
- **Subscriptions:** Recurring spend on single games or game services such as Xbox Game Pass and Apple Arcade.
- **In-game purchases:** Microtransactions, virtual sales, and downloadable content.
- **Digital full-game sales:** Digital copies downloaded via a console marketplace such as Xbox or Playstation.
- **Physical full-game sales:** Physical copies sold in brick-and-mortar stores or online retailers.
- **Esports:** Revenue from tournaments, sponsorships, and advertising associated with competitive gaming.
- **Play to Earn (P2E):** Blockchain gaming gained 7.4 million users in 2024, according to DAPPRadar, highlighting the uptrend of new gamers in the P2E industry.¹³

An increasing share of revenues for mobile games is from in-app ads, while subscriptions and digital sales have grown most in console

Share of revenues by monetization model (%)



Sources: Ampere Analysis; IDC; BCG analysis.

Note: Because of rounding, the percentages may not total 100.

* Subscription services only. In-game subscription spending is included under in-game purchases. |

** Remaining physical share is largely driven by Nintendo Switch software.

¹² BCG, Leveling Up for the New Reality: The Gaming Report, December 2024.

¹³ Pessarlay, Wahid. Blockchain gaming gained 7.4m daily active wallets in 2024: report, Coingeek, Jan 31, 2025, <https://coingeek.com/blockchain-gaming-gained-7-4m-daily-active-wallets-in-2024-report/>

The monetization model shift in console gaming has been the most dramatic, with a rising contribution of revenue now coming from in-game purchases and downloadable content.

Another tactic for monetary success is cross-platform releases. Sony and Microsoft are taking advantage of opportunities to bring their games to other platforms, as high development costs make it increasingly difficult to break even on a single platform.

2025 catalysts for growth

New releases

2025 is expected to be a major year for the industry. Major releases include the successor to Nintendo's flagship Switch console and the Grand Theft Auto 6, which, as mentioned previously, has taken 11 years and over \$1 billion to develop. The Switch 2 console is expected to be launched in 2024 and Take-Two's Rockstar Games division has committed to launching GTA 6 in the fall of 2025.

Artificial intelligence (AI) will reduce costs and drive innovation

Grand Theft Auto 6 has a reported budget of \$1 billion to \$2 billion, making it the most expensive video game ever produced. By comparison, the most expensive movies – modern installments of the Star Wars and Avengers and Pirates – franchises cost only \$300 million to \$450 million. In addition, GTA 6 started development in 2014, meaning it took 11 years to produce.

Generative AI is likely to transform the game development process, making it much cheaper and faster to market. Some of the areas expected to benefit include:¹⁴

- creating infinite varieties of concept art
- designing/creating 3D assets
- LLM-powered NPCs
- generating environments, worlds, and game levels
- synthesized speech for in-game characters
- bots to play against, to onboard into PvP competitive games
- moderating game chats
- endless quests, narrative stories, etc.
- programming characters
- personalizing in-game experiences



AI holds the potential to reinvent game genres, not just make them cheaper to build.

¹⁴ Chen, Andrew. *The most expensive game cost over \$1B, and how AI will transform it.* andrewchen.substack.com

In addition to AI, Apple and Meta have reignited enterprise and consumer interest in virtual, augmented, and mixed reality with the release of the Vision Pro and Quest 3. As costs for these devices come down and exclusive content is created, this technology should also drive more widespread gaming adoption.

The metaverse is another technological driver behind gaming, as users interact in a virtual world with each other – usually in 3D – as avatars or digital self-representations, focused on social and economic connection.

Market consolidation opportunities

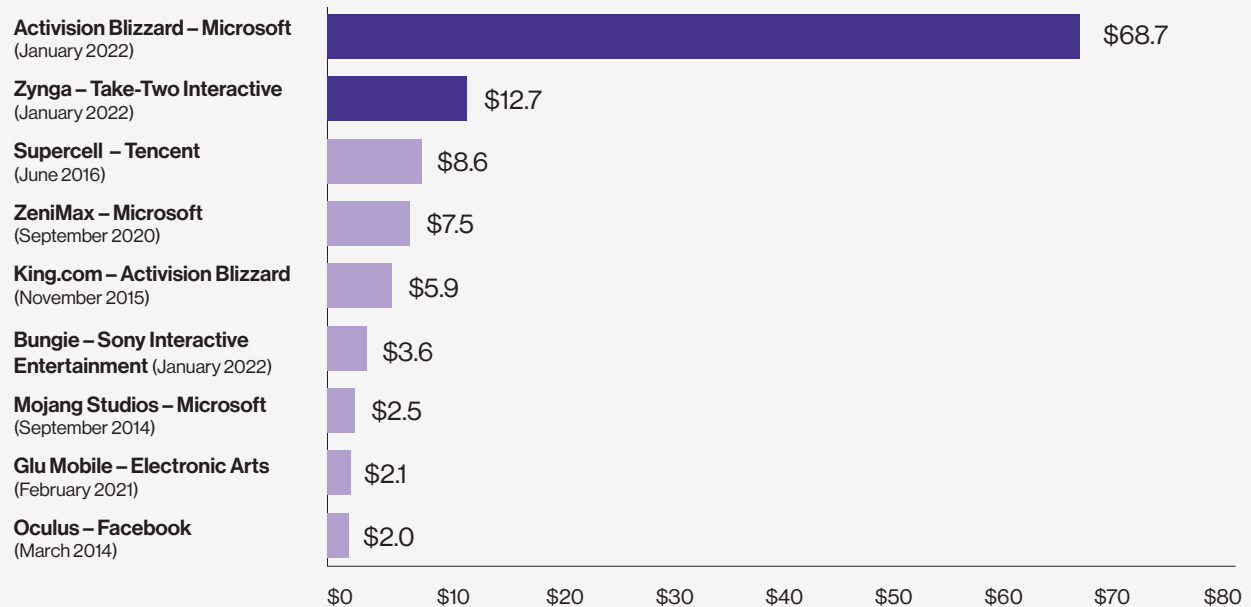
The changing regulatory landscape under the Trump administration and lower interest rates should favor more M&A activity and industry consolidation to help video gaming companies scale. The video gaming industry is already an industry with a history of consolidation.

Microsoft's acquisition of Activision Blizzard was the largest deal in video gaming history, followed by Take-Two Interactive's acquisition of Zynga.

There was \$7.1 billion of M&A activity in 2024 that spanned many different segments of the video gaming market. In addition to deregulation and lower interest rates, the following factors favor M&A activity in video gaming in the coming year.¹⁵

Largest Video Game Industry Acquisitions (in billions USD)

Acquiree – acquirer (date)



Source: Statista

¹⁵ Zubov, Audrey. InvestGame x Deconstructor of Fun: 8 Predictions for Gaming M&A and Investments in 2025, Jan 21, 2025. <https://investgame.net/news/investgame-x-deconstructor-of-fun-8-predictions-for-gaming-m-a-and-investments-in-2025/>

- **Strong balance sheets:** With approximately \$10.5 billion in cash reserves and relatively low leverage, major publishers are well-equipped to pursue dealmaking activity.
- **High-profile studios remain in demand:** Studios with strong IP and healthy financials – whether driven by rapid revenue growth or solid profitability – will continue to command high valuations and attract significant interest in the M&A market.
- **Work-for-hire services on the rise:** Following almost 15,000 layoffs in 2024, publishers are increasingly relying on work-for-hire services. Companies like Keywords Studios (now privately held) and Virtuos are well-positioned to benefit, competing for talent and solidifying their roles as key players in the 2025 M&A landscape.
- **Gaming converges with social and entertainment:** A growing trend blends gaming with other consumer experiences. Voodoo's acquisition of BeReal, Telegram's launch of Mini Apps for gaming, and Crazy Maple Studio's expansion of its ReelShort micro drama app all highlight fresh opportunities for creative, boundary-pushing deals in 2025.
- **Source of entertainment during a downturn:** People tend to seek comfort and distractions during a recession, and video games can provide that.
- **Value for money:** Gaming is a comparatively inexpensive hobby. Games can provide hours or months of entertainment, making them a good value during an economic downturn.
- **Accessibility:** Games are available on mobile devices, so people can play them anywhere.

Economic resiliency of video gaming industry

The video gaming industry is less impacted by economic cycles than other industries and can be viewed as a recession hedge as a relatively inexpensive form of entertainment that can be enjoyed at home.

Our index approach

The VettaFi Video Game Leaders Index (VGAME) tracks the performance of a concentrated portfolio of companies that are components of the video gaming value-chain. Its constituents are involved in game development and publishing, mobile games, online games, gaming GPU's, development platforms and supporting software, hardware and peripherals, and the metaverse.

Index weighting

The index implements a banded weighting approach determined by float modified market cap. Constituents are divided into three bands by float modified market cap. The top five companies each receive 10% of the index, the companies ranking six-10 each receive 5% of the index, and the bottom 10 companies each receive 2.5% of the index.

Rebalance

The index is rebalanced quarterly on the open of trading following the third Friday of the month.



Universe

Constituents of countries listed on major country exchanges (see appendix) that meet the following minimum criteria:

- Average daily trading value: \$1 million USD
- Float market cap percent: 20%
- Full market cap: \$250 million USD

Constituent selection

The top 20 companies by float market cap involved in video games are selected. To qualify for selection, companies must make at least 50% of revenue related to gaming.

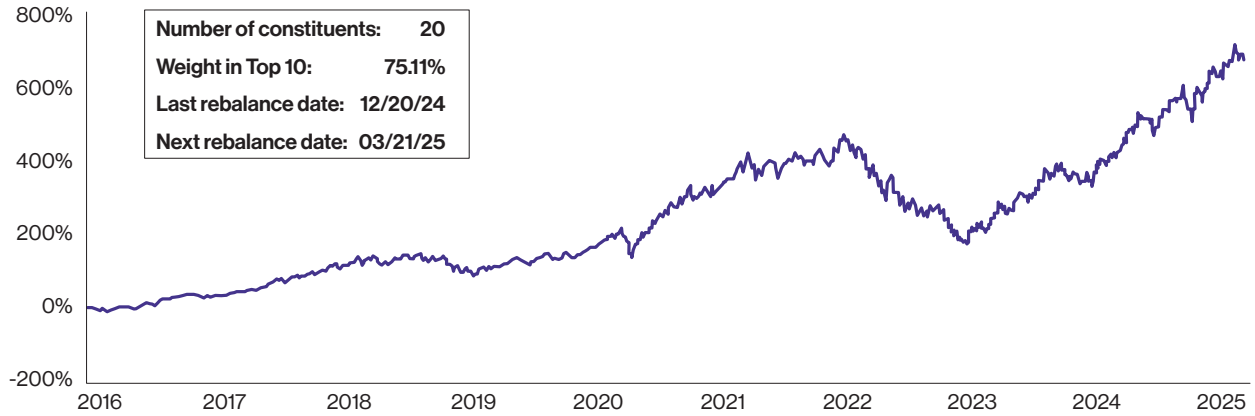
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1. they have at least a 20% market share in either game development/systems, mobile gaming, or gaming GPU's/hardware; and
2. the company is within the top 10 in revenue for game development and publishing, mobile gaming, and development platforms and supporting software, or hardware and peripherals, or metaverse.

Backtested performance

As seen in the performance chart on the next page, the **VettaFi Video Game Leaders Index (VGAME)** delivered strong performance in 2024, up 47.77% on a total return basis.

VettaFi Video Game Leaders Index



Index returns (%)

	Quarter 1				Quarter 2				Quarter 3				Quarter 4				Year
	J	F	M	Q1	A	M	J	Q2	J	A	S	Q3	O	N	D	Q4	
2024	5.08	9.83	1.48	17.12	-3.58	7.48	5.51	9.34	-1.44	4.35	7.58	10.65	-2.43	7.88	-0.93	4.28	47.77
2023	14.67	-1.17	15.87	31.32	-1.33	7.97	5.42	12.30	6.14	-5.39	-3.91	-3.50	-1.19	13.26	4.52	16.96	66.45
2022	-9.44	-6.35	-0.69	-15.77	-13.48	1.31	-10.52	-21.57	4.96	-5.73	-15.38	-16.27	-5.48	17.21	-3.31	7.12	-40.75
2021	3.54	1.16	-1.18	3.50	3.90	1.11	4.79	10.09	-3.68	4.22	-5.12	-4.76	6.74	3.96	-3.51	7.07	16.20
2020	2.38	-2.65	-2.01	-2.33	11.56	9.18	8.22	31.81	6.06	9.68	-2.81	13.07	-1.82	7.99	5.24	11.58	62.41
2019	9.86	-1.04	5.33	14.51	6.23	-7.28	7.80	6.19	2.65	-1.86	0.83	1.58	4.44	5.88	6.09	17.32	44.91
2018	11.49	-2.22	-3.81	4.85	-0.74	6.44	-0.92	4.68	-1.54	1.68	2.13	2.24	-13.53	-0.42	-6.29	-19.30	-9.44
2017	6.32	3.00	4.55	14.49	3.04	10.99	0.96	15.47	6.93	2.37	2.42	12.12	7.10	2.36	0.60	10.29	63.48
2016	-5.33	-2.81	10.14	1.34	-2.14	10.78	0.22	8.66	10.22	4.02	5.58	21.04	-1.55	-2.01	-0.07	-3.60	28.49
2015															0.78	0.78	0.78

The 20-stock VGAME Index also exhibited strong relative performance versus ETF peers on an annualized basis

Annualized total return (%)

	VGAMET Index	NERD US	ESPO US	HERO US
Month-to-date	-0.93	-1.54	-0.82	-1.82
Quarter-to-date	4.28	12.65	9.46	-1.90
Year-to-date	47.77	28.86	47.13	18.23
Last month	-0.93	-1.54	-0.82	-1.82
Last 3 months	4.28	12.65	9.46	-1.90
Last 12 months	47.77	28.86	47.13	18.23
Last 2 years	56.83	20.86	40.08	13.41
Last 3 years	13.37	-6.19	8.76	-5.09
Last 5 years	22.42	5.42	18.38	8.50
Last 8 years	24.84			

Annual performance (%)

	VGAMET Index	NERD US	ESPO US	HERO US
2015	0.78			
2016	28.49			
2017	63.48			
2018	-9.44		-12.32	
2019	44.91	7.56	41.58	8.84
2020	62.41	89.88	84.24	90.95
2021	16.20	-16.93	-1.93	-7.92
2022	-40.75	-43.49	-34.43	-33.52
2023	66.45	13.35	33.37	8.78
2024	47.77	28.86	47.13	18.23

Top 10 holdings (as of 12/31/24)

VGAMET Index	%
Tencent Holdings Ltd.	10.52
NVIDIA Corporation	10.24
Microsoft Corporation	9.82
Meta Platforms Inc Class A	9.72
Advanced Micro Devices, Inc.	9.69
AppLovin Corp. Class A	5.20
Nintendo Co., Ltd	5.14
Sony Group Corporation	4.94
Netease inc Sponsored ADR	4.85
Sea Limited Sponsored ADR CI	4.74

Conclusion

Many factors contribute to the strong investment potential of video gaming:

- **Expanding global consumer base:** By 2027, 3.8 billion people are expected to be playing video games, indicating a vast and expanding global market.¹⁶
- **Technological innovation:** Advancements in virtual and augmented reality, cloud gaming, Web 3.0, blockchain, and artificial intelligence are all creating new revenue streams and enhanced user gaming experiences.¹⁷
- **Boom of mobile gaming:** The accessibility and portability of smartphone gaming has significantly expanded the market, with companies like Glu Mobile, now owned by Electronic Arts, capitalizing on this trend.¹⁸
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To learn more about VettaFi Indexing click [here](#)

¹⁶ <https://www.marketbeat.com/learn/video-game-stocks-how-to-invest-in-gaming/>

¹⁷ <https://www.kavout.com/market-lens/top-gaming-stocks-and-etfs-to-watch-in-2025-riding-the-wave-of-technological-innovation>

¹⁸ <https://scrab.com/blog/maximize-gains-the-5-must-have-video-game-stocks-for-your-portfolio-in-2024>

¹⁹ <https://blog.roboforex.com/blog/2023/11/24/gaming-industry-analysis-will-gaming-stocks-rise-in-2024/>

²⁰ <https://variety.com/2023/digital/news/microsoft-activision-blizzard-acquisition-uk-regulatory-approval-1235754785/>

About VettaFi

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